AMENDMENTS TO THE CLAIMS

1-6. (Canceled)

7. (Currently amended) A non-aqueous electrolyte battery comprising:

a positive electrode,

a negative electrode,

a separator disposed between the positive and negative electrodes, and

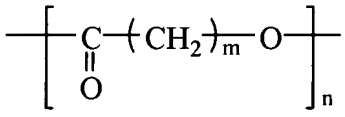
an electrolyte solution;

wherein, of the positive electrode and the negative electrode, either the positive electrode comprises a positive electrode current collector coated with a positive electrode binder composition composed primarily of a thermoplastic resin and a positive electrode active material, or the negative electrode comprises a negative electrode current collector coated with a negative electrode binder composition composed primarily of a thermoplastic resin and a negative electrode active material,

wherein the thermoplastic resins have a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 \ ,$$

within a range of 150 to 800%, and contain units of general formula (1) below



(1)

wherein the letter m is a number from 3 to 5, and the letter n is 5 or more,

and wherein the thermoplastic resins are a thermoplastic polyurethane resin prepared by reacting a polyol compound having a number-average molecular weight of 1,000 to 5,000 with a polyisocyanate and a chain extender,

wherein ~~a residue of the thermoplastic resin in the~~ said binder composition is at least one other thermoplastic resin selected from the ~~class~~ group consisting of a ~~flouropolymer,~~ fluoropolymer, a synthetic rubber, a polyolefin and a polyether,

with the proviso that when the residue of the thermoplastic resin in the binder composition is a polyvinylidene fluoride, the glass transition temperature of the binder composition is lower than the freezing point of the electrolyte solution.

8. (Currently amended) A non-aqueous electrolyte battery comprising:

a positive electrode,

a negative electrode,

a separator disposed between the positive and negative electrodes, and

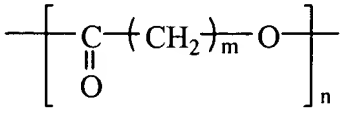
an electrolyte solution;

wherein the positive electrode comprises a positive electrode current collector coated with a positive electrode binder composition composed primarily of a thermoplastic resin and a positive electrode active material, and the negative electrode comprises a negative electrode current collector coated with a negative electrode binder composition composed primarily of a thermoplastic resin and a negative electrode active material,

wherein the thermoplastic resins have a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%, and contain units of general formula (1) below



(1)

wherein the letter m is a number from 3 to 5, and the letter n is 5 or more,

and wherein the thermoplastic resins are a thermoplastic polyurethane resin prepared by reacting a polyol compound having a number-average molecular weight of 1,000 to 5,000 with a polyisocyanate and a chain extender,

wherein ~~a residue of the thermoplastic resin in the~~ said binder composition is at least one other thermoplastic resin selected from the ~~class~~ group consisting of a ~~flouropolymer,~~ fluoropolymer, a synthetic rubber, a polyolefin and a polyether,

with the proviso that when the residue of the thermoplastic resin in the binder composition is a polyvinylidene fluoride, the glass transition temperature of the binder composition is lower than the freezing point of the electrolyte solution.

9. (Currently amended) A non-aqueous electrolyte battery comprising:

a positive electrode and a negative electrode, each comprised of a current collector coated with a binder composition composed primarily of a thermoplastic resin and an active material,

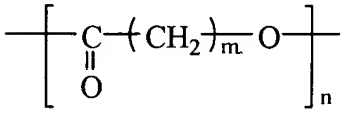
a separator disposed between the positive and negative electrodes, and

an electrolyte solution;

wherein the thermoplastic resins have a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%, and contain units of general formula (1) below



(1)

wherein the letter m is a number from 3 to 5, and the letter n is 5 or more,

and wherein the thermoplastic resins are a thermoplastic polyurethane resin prepared by reacting a polyol compound having a number-average molecular weight of 1,000 to 5,000 with a polyisocyanate and a chain extender,

wherein ~~a residue of the thermoplastic resin in the~~ said binder composition is at least one other thermoplastic resin selected from the ~~class~~ group consisting of a ~~flouropolymer,~~ fluoropolymer, a synthetic rubber, a polyolefin and a polyether,

with the proviso that when the residue of the thermoplastic resin in the binder composition is a polyvinylidene fluoride, the glass transition temperature of the binder composition is lower than the freezing point of the electrolyte solution.

10. (Canceled)

11. (Currently amended) The non-aqueous electrolyte battery of ~~any one of claims 7 to 9, 18 and 19~~ claim 7, 8, 9, 18 or 19 wherein the separator is composed of a separator base impregnated with an electrolyte solution.

12. (Currently amended) The non-aqueous electrolyte battery of ~~any one of claims 7 to 9,~~ claim 7, 8 or 9, wherein the separator is composed of a gel electrolyte

prepared by shaping a thermoplastic resin having a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%, then immersing the shaped resin in an electrolyte solution to effect swelling.

13. (Withdrawn, previously presented) An electrical double-layer capacitor comprising:

a pair of polarizable electrodes,

a separator disposed between the polarizable electrodes, and,

an electrolyte solution;

wherein one or both of the pair of polarizable electrodes is comprised of a current collector coated with a polarizable electrode binder composition composed primarily of the thermoplastic resin of claim 7 and activated carbon.

14. (Withdrawn, previously presented) An electrical double-layer capacitor comprising:

a pair of polarizable electrodes, each comprised of a current collector coated with a polarizable electrode binder composition composed primarily of a thermoplastic resin and activated carbon,

a separator disposed between the polarizable electrodes, and

an electrolyte solution;

wherein 1 to 20 % by weight of the thermoplastic resin in the binder composition is a thermoplastic resin according to claim 7.

15. (Canceled)

16. (Withdrawn, currently amended) The electrical double-layer capacitor of ~~any one of claims 13 and 14,~~ claim 13 or 14, wherein the separator is composed of a separator base impregnated with an electrolyte solution.

17. (Withdrawn, currently amended) The electrical double-layer capacitor of ~~any one of claims 13 and 14,~~ claim 13 or 14, wherein the separator is composed of the gel electrolyte prepared by shaping a thermoplastic resin, then immersing the shaped resin in an electrolyte solution to effect swelling, wherein the thermoplastic resin has a swelling ratio, as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%.

18. (Currently amended) A non-aqueous electrolyte battery comprising:

a positive electrode and a negative electrode, each comprised of a current collector coated with a binder composition composed primarily of a thermoplastic resin and an active material,

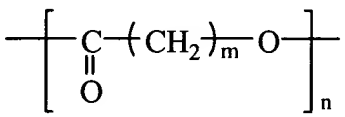
a separator disposed between the positive and negative electrodes, and

an electrolyte solution;

wherein 1 to 20 % by weight of the thermoplastic resin in the binder composition for the positive electrode is a thermoplastic resin which has a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%, and contains units of general formula (1) below



(1)

wherein the letter m is a number from 3 to 5, and the letter n is 5 or more,

and wherein the thermoplastic resins are a thermoplastic polyurethane resin prepared by reacting a polyol compound having a number-average molecular weight of 1,000 to 5,000 with a polyisocyanate and a chain extender,

wherein ~~a residue of the thermoplastic resin in the~~ said binder composition is at least one other thermoplastic resin selected from the ~~class~~ group consisting of a ~~flouropolymer,~~ fluoropolymer, a synthetic rubber, a polyolefin and a polyether,

with the proviso that when the residue of the thermoplastic resin in the binder composition is a polyvinylidene fluoride, the glass transition temperature of the binder composition is lower than the freezing point of the electrolyte solution.

19. (Currently amended) A non-aqueous electrolyte battery comprising:

a positive electrode and a negative electrode, each comprised of a current collector coated with a binder composition composed primarily of a thermoplastic resin and an active material,

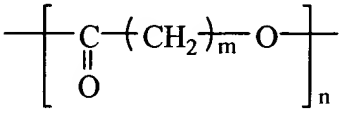
a separator disposed between the positive and negative electrodes, and

an electrolyte solution;

wherein 1 to 20 % by weight of the thermoplastic resin in the binder composition is a thermoplastic resin which has a swelling ratio as determined from the equation

$$\text{swelling ratio (\%)} = \frac{\text{weight in grams of swollen thermoplastic resin after 24 hours immersion in electrolyte solution at 20°C (g)}}{\text{weight in grams of thermoplastic resin before immersion in electrolyte solution at 20°C (g)}} \times 100 ,$$

within a range of 150 to 800%, and contains units of general formula (1) below



(1)

wherein the letter m is a number from 3 to 5, and the letter n is 5 or more,

and wherein the thermoplastic resins are a thermoplastic polyurethane resin prepared by reacting a polyol compound having a number-average molecular weight of 1,000 to 5,000 with a polyisocyanate and a chain extender,

wherein ~~a residue of the thermoplastic resin in the~~ said binder composition is at least one other thermoplastic resin selected from the ~~class~~ group consisting of a ~~flouropolymer,~~ fluoropolymer, a synthetic rubber, a polyolefin and a polyether,

with the proviso that when the residue of the thermoplastic resin in the binder composition is a polyvinylidene fluoride, the glass transition temperature of the binder composition is lower than the freezing point of the electrolyte solution.

20-22. (Canceled)